

**Amendment to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

1. (Currently amended) An implant composition for stimulating bone growth, comprising:

- (a) a first calcium sulfate compound,
- (b) polymer containing particles comprising a second calcium sulfate compound, and at least one resorbable polymer, and
- (c) a setting agent for setting said calcium sulfate compound and said polymer containing particles into a heterogeneous solid composition,  
wherein upon setting, said calcium sulfate compound forms a matrix and said polymer containing particles are settled within said matrix.

2. (Original) The implant composition of Claim 1, wherein a rate of resorption of said implant composition in a recipient site is in a range from about four weeks to about twenty eight weeks.

3. (Original) The implant composition of Claim 1, wherein said matrix and said polymer containing particles resorb at different rates in a recipient site, and resorption of said polymer containing particles being slower.

4. (Currently amended) The implant composition of Claim 1, wherein said first calcium sulfate compound is calcium sulfate hemihydrate.

5. (Original) The implant composition of Claim 1, wherein said setting agent is selected from the group consisting of water, an alkaline metal salt

solution, and a potassium salt solution.

6. (Canceled)

7. (Currently amended) The implant composition of Claim 16, wherein size of said polymer containing particles is more than 20  $\mu\text{m}$  in diameter.

8. (Currently amended) The implant composition of Claim 16, wherein said second calcium sulfate compound in said polymer containing particles is selected from the group consisting of calcium sulfate dihydrate, calcium sulfate hemihydrate, and mixture thereof.

9. (Currently amended) The implant composition of Claim 16, wherein said resorbable polymer is mixed with said calcium sulfate compound of said particles.

10. (Currently amended) The implant composition of Claim 16, wherein ~~said~~ said calcium sulfate compound of said particles is coated with a resorbable polymer coating.

11. (Original) The implant composition of Claim 10, wherein thickness of said resorbable polymer coating is from about 2  $\mu\text{m}$  to about 50  $\mu\text{m}$ .

12. (Currently amended) The implant composition of Claim 16, wherein said resorbable polymer is aliphatic polyesters of alpha-hydroxy acid derivatives.

13. (Original) The implant composition of Claim 12, wherein said resorbable polymer is selected from the group consisting of polyactides, polyglycolides, polydioxanone, and poly  $\epsilon$ -caprolactone.

14. (Currently amended) The implant composition of Claim 12, wherein said resorbable polymer is polyactides.

15. (Currently amended) The implant composition of Claim 16, wherein said resorbable polymer is an amino acid derived polymer selected from the group consisting of poly(desaminotyrosyl-tyrosine ethyl ester carbonates) poly (DTE carbonates) and their derivatives.

16. (Currently amended) The implant composition of Claim 16, wherein said resorbable polymer is selected from the group consisting of hydrophobic polymers, carnuba waxes ~~and their derivatives~~, water soluble polymers, polyvinyl alcohols, and therapeutic polymers containing salicylates.

17. (Currently amended) The implant composition of Claim 1, ~~The method of Claim 6~~, wherein the amount of said resorbable polymer in said polymer containing particle is in a range from about 0.1% to about 50% (w/w).

18. (Currently amended) A kit of implant materials for bone augmentation and bone defect reparation comprising:

- (a) dry powder of a first calcium sulfate compound, and
- (b) polymer containing particles comprising a second calcium sulfate compound, and at least one resorbable polymer.

19. (Currently amended) The kit of implant materials of Claim 18, wherein said first calcium sulfate compound is calcium sulfate hemihydrate.

20. (Canceled)

21. (Currently amended) The kit of implant materials of Claim 1820, wherein size of said polymer containing particles is more than 20  $\mu\text{m}$  in diameter.

22. (Currently amended) The kit of implant materials of Claim 1820, wherein said second calcium sulfate compound in said polymer containing particles is selected from the group consisting of calcium sulfate dihydrate, calcium sulfate hemihydrate, and mixture thereof.

23. (Currently amended) The kit of implant materials of Claim 1820, wherein said resorbable polymer is mixed with said calcium sulfate compound of said particles.

24. (Currently amended) The kit of implant materials of Claim 1820, wherein said calcium sulfate compound of said particles is coated with a resorbable polymer coating.

25. (Original) The kit of implant materials of Claim 24, wherein thickness of said resorbable polymer coating is from about 2  $\mu\text{m}$  to about 50  $\mu\text{m}$ .

26. (Currently amended) The kit of implant materials of Claim 1820, wherein said resorbable polymer is aliphatic polyesters of alpha-hydroxy acid derivatives.

27. (Original) The kit of implant materials of Claim 26, wherein said resorbable polymer is selected from the group consisting of polyactides, polyglycolides, polydioxanone, and poly  $\epsilon$ -caprolactone.

28. (Original) The kit of implant materials of Claim 26, wherein said resorbable polymer is polyactides.

29. (Currently amended) The kit of implant materials of Claim 1820, wherein said resorbable polymer is an amino acid derived polymer[[s]] selected

from the group consisting of poly(desaminotyrosyl-tyrosine ethyl ester carbonates)  
~~poly (DTE carbonates)~~ and their derivatives.

30. (Currently amended) The kit of implant materials of Claim 1820, wherein said resorbable polymer is selected from the group consisting of hydrophobic polymers, carnuba waxes ~~and their derivatives~~, water soluble polymers, polyvinyl alcohols, and therapeutic polymers containing salicylates.

31. (Currently amended) The kit of implant materials of Claim 1820, wherein the amount of said resorbable polymer in said polymer containing particle is in a range from about 0.1% to about 30% (w/w).

32. (Currently amended) The kit of implant materials of Claim 18, wherein said kit comprises two different ~~types of~~ polymer containing particles that resorb at different rates in a recipient site.

33. (Original) The kit of implant materials of Claim 18 further comprising a setting agent, packed in a container.

34. (Original) The kit of implant materials of Claim 33, wherein said setting agent is selected from the group consisting of water, an alkaline metal salt solution, and a potassium salt solution.

35. (Original) The kit of implant materials of Claim 18 further comprising instructions on how to use the kit.

36. (Currently amended) A method for bone augmentation and bone defect reparation comprising the steps of:

(a) mixing a calcium sulfate compound and resorbable polymer coated particles ~~polymer containing particles~~ with a setting agent into a mixture,

(b) applying said mixture, and  
(c) setting said mixture into a heterogeneous solid composition, wherein upon setting, said calcium sulfate compound forms a matrix and said resorbable polymer coated particles ~~polymer-containing particles~~ settled within said matrix; wherein said heterogeneous solid composition resorbs at a controlled rate in a recipient site for stimulating bone growth.

37. (Original) The method of Claim 36, wherein applying said mixture is filling a recipient site with said mixture.

38. (Original) The method of Claim 36, wherein applying said mixture is coating said mixture on a surface of a surgical implant prior to introducing said surgical implant into said recipient site.

39. (Original) The method of Claim 36, wherein said setting agent controls a speed of setting said mixture into a heterogeneous solid composition.

40. (Original) The method of Claim 39, wherein said setting agent is selected from the group consisting of water, an alkaline metal salt solution, and a potassium salt solution.

41. (Currently amended) The method of Claim 36, wherein said resorbable polymer coated particles ~~polymer-containing particles~~ are two different ~~types of polymer-containing particles~~ resorbable polymer coated particles that resorb at different rates in a recipient site.

42. (New) An implant composition for stimulating bone growth, comprising:

- (a) a calcium sulfate compound,
- (b) resorbable polymer coated particles, and

(c) a setting agent for setting said calcium sulfate compound and said resorbable polymer coated particles into a heterogeneous solid composition, wherein upon setting, said calcium sulfate compound forms a matrix and said resorbable polymer coated particles are settled within said matrix.

43. (New) The implant composition of Claim 42, wherein said matrix and said resorbable polymer coated particles resorb at different rates in a recipient site, and resorption of said resorbable polymer coated particles being slower.

44. (New) The implant composition of Claim 43, wherein a rate of resorption of said implant composition in a recipient site is in a range from about four weeks to about twenty eight weeks.

45. (New) The implant composition of Claim 43, wherein said calcium sulfate compound is calcium sulfate hemihydrate.

46. (New) The implant composition of Claim 43, wherein said setting agent is selected from the group consisting of water, an alkaline metal salt solution, and a potassium salt solution.

47. (New) The implant composition of Claim 43, wherein said resorbable polymer coated particles comprise:

- (a) a calcium sulfate compound, and
- (b) a polymer coating with at least one resorbable polymer.

48. (New) The implant composition of Claim 47, wherein size of said resorbable polymer coated particles is more than 20  $\mu\text{m}$  in diameter.

49. (New) The implant composition of Claim 47, wherein said calcium sulfate compound in said resorbable polymer coated particles is selected from the

group consisting of calcium sulfate dihydrate, calcium sulfate hemihydrate, and mixture thereof.

50. (New) The implant composition of Claim 49, wherein thickness of said polymer coating is from about 2  $\mu\text{m}$  to about 50  $\mu\text{m}$ .

51. (New) The implant composition of Claim 50, wherein said resorbable polymer is aliphatic polyesters of alpha-hydroxy acid derivatives.

52. (New) The implant composition of Claim 51, wherein said resorbable polymer is selected from the group consisting of polyactides, polyglycolides, polydioxanone, and poly  $\epsilon$ -caprolactone.

53. (New) The implant composition of Claim 51, wherein said resorbable polymer is polyactides.

54. (New) The implant composition of Claim 50, wherein said resorbable polymer is an amino acid derived polymer selected from the group consisting of poly(desaminotyrosyl-tyrosine ethyl ester carbonates) and their derivatives.

55. (New) The implant composition of Claim 50, wherein said resorbable polymer is selected from the group consisting of hydrophobic polymers, caruba waxes, water soluble polymers, polyvinyl alcohols, and therapeutic polymers containing salicylates.

56. (New) The implant composition of Claim 50, wherein the amount of said resorbable polymer in said resorbable polymer coated particles is in a range from about 0.1% to about 50% (w/w).

57. (New) A kit of implant materials for bone augmentation and bone



defect reparation comprising:

- (a) dry powder of a calcium sulfate compound, and
- (b) resorbable polymer coated particles.

58. (New) The kit of implant materials of Claim 57, wherein said calcium sulfate compound is calcium sulfate hemihydrate.

59. (New) The kit of implant materials of Claim 57, wherein said resorbable polymer coated particles comprise:

- (a) a calcium sulfate compound, and
- (b) a polymer coating with at least one resorbable polymer.

60. (New) The kit of implant materials of Claim 59, wherein size of said resorbable polymer coated particles is more than 20  $\mu\text{m}$  in diameter.

61. (New) The kit of implant materials of Claim 59, wherein said calcium sulfate compound in said resorbable polymer coated particles is selected from the group consisting of calcium sulfate dihydrate, calcium sulfate hemihydrate, and mixture thereof.

62. (New) The kit of implant materials of Claim 61, wherein thickness of said polymer coating is from about 2  $\mu\text{m}$  to about 50  $\mu\text{m}$ .

63. (New) The kit of implant materials of Claim 62, wherein said resorbable polymer is aliphatic polyesters of alpha-hydroxy acid derivatives.

64. (New) The kit of implant materials of Claim 63, wherein said resorbable polymer is one selected from the group consisting of polyactides, polyglycolides, polydioxanone, and poly  $\epsilon$ -caprolactone.

65. (New) The kit of implant materials of Claim 63, wherein said resorbable polymer is polyactides.

66. (New) The kit of implant materials of Claim 62, wherein said resorbable polymer is an amino acid derived polymer selected from the group consisting of poly(desaminotyrosyl-tyrosine ethyl ester carbonates) and their derivatives.

67. (New) The kit of implant materials of Claim 62, wherein said resorbable polymer is selected from the group consisting of hydrophobic polymers, carnuba waxes, water soluble polymers, polyvinyl alcohols, and therapeutic polymers containing salicylates.

68. (New) The kit of implant materials of Claim 62, wherein the amount of said resorbable polymer in said resorbable polymer coated particles is in a range from about 0.1% to about 30% (w/w).

69. (New) The kit of implant materials of Claim 59, wherein said kit comprises two different resorbable polymer coated particles that resorb at different rates in a recipient site.

70. (New) The kit of implant materials of Claim 59 further comprising a setting agent, packed in a container.

71. (New) The kit of implant materials of Claim 70, wherein said setting agent is selected from the group consisting of water, an alkaline metal salt solution, and a potassium salt solution.